

Amendments to the Claims

1. (currently amended) A system comprising a flexible tubular infusion catheter; a hollow rigid tube including a proximal end and a distal end and a lumen extending therebetween, wherein the hollow tube is shaped and sized to permit insertion into a lumen of the infusion catheter, and wherein the hollow tube is stiffer than the infusion catheter such that the hollow tube acts as a stylet for guiding the catheter through tissue to a target location in a patient's body; a positioning system that can be coupled to an image-guided surgical workstation; and a remotely detectable locator on the hollow rigid tube trackable by [a] the positioning system as the hollow rigid tube is tunneled through tissue in the patient's body toward the target location whereby the progress of the locator can be tracked and thus the position of the hollow rigid tube can be positionally tracked by the positioning system for proper positioning of the infusion catheter in relation to [a] the patient's body into which the hollow rigid tube and catheter have been inserted and displayed on a monitor of the image-guided surgical workstation.
2. (original) The system of claim 1, in which the lumen of the hollow tube is filled with a fluid, and in which the proximal end of the hollow tube is configured to be closed to retain the fluid within the lumen of the hollow tube.
3. (original) The system of claim 1, further including a fluid reservoir that is coupled to the proximal end of the hollow tube.
4. (original) The system of claim 3, wherein the hollow tube and the fluid reservoir are sized to hold enough fluid to fill the lumen of the infusion catheter after withdrawal of the hollow tube from the lumen of the infusion catheter.
5. (cancelled)

6. (previously presented) The system of claim 1, in which the proximal end of the infusion catheter sealingly engages around the hollow tube when a portion of the hollow tube is located within the lumen of the infusion catheter.

7. (original) The system of claim 6, in which the proximal end of the tubular catheter includes a clamp that closes around the hollow tube.

8. (original) The system of claim 6, in which the lumen of the catheter includes a diameter having at least two different values at different locations along the lumen of the catheter.

9. (cancelled)

10. (cancelled)

11. (currently amended) The system of claim [10] 1, further including [an] the image-guided surgical workstation coupled to the positioning system.

12. (original) The system of claim 1, further including means for temporarily sealing the proximal end of the hollow tube to retain fluid within the hollow tube.

13. (original) The system of claim 1, further including a cap sized and shaped to cap off a proximal end of the hollow tube.

14. (original) The system of claim 1, further including a plug sized and shaped to plug a proximal end of the hollow tube.

15. (original) The system of claim 1, further including a clamp sized and shaped to pinch off a portion of the hollow tube.

16. (currently amended) A system comprising a flexible tubular infusion catheter including a proximal end and a distal end and a lumen extending

therebetween; a hollow rigid tube, including a proximal end and a distal end and a lumen extending therebetween, wherein the hollow tube is shaped and sized to permit insertion into the lumen of the flexible tubular infusion catheter, and wherein the hollow tube is stiffer than the infusion catheter such that the hollow tube acts as a stylet for guiding the catheter through tissue to a target location in a patient's body; and wherein at least a portion of an inner diameter of the flexible infusion catheter snugly seals to an outer diameter of the hollow tube to prevent air from passing therebetween as the hollow tube is withdrawn from the flexible infusion catheter; a positioning system that can be coupled to an image-guided surgical workstation; and a remotely detectable locator on the hollow rigid tube trackable by [a] the positioning system as the hollow rigid tube is tunneled through tissue in the patient's body toward the target location whereby the progress of the locator can be tracked and thus the position of the hollow rigid tube can be positionally tracked by the positioning system for proper positioning of the infusion catheter in relation to [a] the patient's body into which the hollow rigid tube and catheter have been inserted and displayed on a monitor of the image-guided surgical workstation.

17. (original) The system of claim 16, in which a proximal portion of the inner diameter of the flexible infusion catheter snugly seals to the outer diameter of the hollow tube, and in which a distal portion of the inner diameter of the flexible infusion catheter more loosely encircles the outer diameter of the hollow tube than the proximal portion.

18. (currently amended) A method comprising loading a hollow-tube stylet with fluid; inserting the stylet into a lumen of a flexible infusion catheter to provide enough stiffening to the catheter to guide the catheter through living tissue toward a target; directing the stylet and the catheter through tissue to the target; and withdrawing the stylet from the catheter, in which the withdrawing includes releasing the fluid from the stylet into the lumen of the catheter to avoid air from occupying the lumen of the catheter upon withdrawal of the stylet; and wherein the directing includes using a positioning system to track the progress of a locator on the rigid tube as the rigid tube is

tunneled through tissue in the patient's body toward the target for proper guidance of the infusion catheter to the target.

19. (original) The method of claim 18, further including temporarily closing a proximal end of the stylet, after the loading the stylet with fluid, to assist in retaining the loaded fluid within the stylet.

20. (previously presented) The method of claim 19, further including opening the proximal end of the stylet after the inserting the stylet into the lumen of the catheter and before withdrawing the stylet, to release fluid from the stylet into lumen of the catheter.

21. (previously presented) The method of claim 18, further including infusing a fluid agent through the catheter after withdrawing the stylet.

22. (previously presented) The method of claim 18, wherein a rigid hollow-tube stylet is used.

23. (previously presented) The method of claim 18, wherein the hollow-tube stylet guides the catheter along a straight line.

24. (currently amended) A system comprising a flexible tubular infusion catheter including a proximal end and a distal end and a lumen extending therebetween; hollow stylet means insertable into the lumen of the catheter for guiding the catheter through tissue to a target location in a patient's body; and locator means on the hollow stylet means for enabling the catheter to be tracked by a positioning system coupled to an image-guided workstation as the hollow stylet means is being tunneled through tissue in the patient's body toward the target location when one or more locators are attached to at least one of the catheter and hollow stylet means.

25. (currently amended) The system of claim 24, including wherein the locator means includes the one or more locators attached to one of the catheter and hollow stylet means.